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Original Communications.

CARBOLIC, PHENIC AND CRESYLIC ACIDS.

A New, Ready and Perfect Mode of Embalming, as exemplified at Bellevue Hospital during the past four Months. Also its Uses as a Disinfectant and Preventive in Contagious Diseases.

By JOHN J. CALDWELL, M.D., of Brooklyn, N. Y.

DURING the past few months, it has been my pleasure to have several invitations to be present at Bellevue Hospital College to witness the new process of embalming, before the Faculty, by simply washing the corpse with a solution of carbolic acid of a certain strength, which must not be too strong or yet too dilute. If too strong, it becomes so caustic as to destroy the tissue, and render its minute structure one common mass by coagulation. The proper strength can be determined by making the solution moderately strong, say one part of the acid to one hundred parts of water, and then dip a portion of muscular tissue into the solution and add the acid until it gives the tissue a red and natural appearance, and then, under the microscope, you will have the minute structure in all its beauty. When strong enough, it cauterizes and coagulates, giving the substance the same appearance as a free application of caustic silver. Although the patentee claims, as the following from his circular will show, that "it is simply a wash, the body is not mutilated in any way, no injection is made into the veins, no cut or incision is made upon the body, it is a disinfectant," and other virtues in his compound, we have not been able to discover, in the many *post-mortem* examinations and dissections at Bellevue, any other trace, track, smell or taste than simply that of carbolic acid, or creasote of coal-tar, or, as the chemist calls it, the hydrated oxide of phenyle.

We will now turn to the different dissections made before the medical savans of New York and her suburban cities. First, a body of one month's preservation; second, a body of two months' preservation; third, a body of three months' preservation; fourth, a body of four months' preservation; and others of intermediate space of time. Under this simple form, in each case, the results were uniform:—The skin soft and pliant, with the epithelium intact, the body rotund and plump, expression good and natural, the joints free and easy, and upon dissecting the brain it was found sound and free from odor, save a faint smell of coal-tar. Even the fluids were preserved. The same may be stated of the lungs, liver, intestines and spleen, the blood and blood-disks, muscular, fatty and cellular tissues. Even in a subject who died of tubercular disease of the lungs, seventy-three days after death the abscesses of the lungs had not undergone any change, and laudable pus was found from broken-down tubercles. This fact alone struck all present with wonder and admiration. During the whole of these exhibitions, the microscopic and chemical agents were freely used and commented upon, and in all cases the muscular striæ and cellular development were perfect. Dr. Doremus, Professor of Chemistry and Toxicology at this College, said, "he had the honor of embalming Archbishop John Hughes, of New York, and had witnessed the same ceremony in the case of the late Archbishop of Paris, and in many other cases in all circumstances of life, but he never witnessed any process approximating the beauty and perfection of this new mode now being introduced by Mr. Clarke, for with all other methods there would be some discoloration from the metallic injections, and a mutilation of some kind in every instance."

Dr. Sayre, Professor of Surgery in this College, furthermore said, that "he had never witnessed anything like it," and spoke also of the perfect state of preservation hereby secured.

Prof. Smith, of the same College, remarked a curious and striking incident, in the case of a corpse of a little girl. When the solution was applied to the cheeks and lips, they instantly became so florid and lifelike, that the parents and friends could but believe that life still existed. This was simply due to some peculiar chemical change. The simple process of bathing and wrapping the body in clothes saturated with this solution, and injecting the natural cavities or openings with the same, certainly is an easy process of embalming, and a process, too, of vital importance to all mankind, and well worthy of a visit to our hospital for verification.

It is my opinion, and that, too, of many others, that to Dr. Squibb, of Brooklyn, is due the credit of the introduction of carbolic acid and its compounds as a disinfectant, a styptic, and a preservative of surgical specimens; for it was through this celebrated chemist and pharmaceutist, while serving in large hospitals during the late war, that the medical officers' attention (your humble servant among others) was first called to its many good qualities. It was found then to arrest destruction, to destroy foul odors, to ward off the fly and maggot. Hence, in weak solution we used it to dress wounds, with the very best results; in stronger solutions, we used it in scrubbing our wards and privies, in washing and disinfecting clothing, and for many other purposes. Dr. Squibb furnished us a very cheap article of this kind, well known in the market as "Squibb's Impure Carbolic Acid," with full directions as to its use.

The following extracts are from a lecture by Dr. F. Crace Calvert, F.R.S., before the "Society for the Encouragement of National Industry," in France:—

Carbolic or Phenic Acid and its Properties.

The disinfecting, or rather antiseptic, properties of carbolic acid are very remarkable. The beautiful researches and discoveries of M. Pasteur have shown that all fermentation and putrefaction is due to the presence of microscopical vegetables or animals, which, during their vitality, decompose or change the organic substances, so as to produce the effects which we witness; and as carbolic acid exercises a most powerful destructive action upon these microscopic and primitive sources of life, carbolic acid, therefore, is an antiseptic and disinfectant much more active and much more rational than those generally in use. It is necessary that I should here make a few remarks explanatory of the distinctions between *deodorizers, disinfectants* and *antiseptics.*

Deodorizers.—All substances merely acting as such are neither disinfectants nor antiseptics, as they simply remove the noxious gases emitted from organic matters whilst in a state of decay or putrefaction, without having the property of arresting decomposition or fermentation. For it has been proved that the source of infection or contagion is not due to noxious gases or bad smells (being merely indicative of its probable existence), but, as we shall presently see, to microscopic spores floating in the atmosphere, and which by their ulterior development and propagation are believed to be the true source of contagion.

Disinfectants.—Under this head may be classed bleaching powder, or chloride of lime, sulphurous acid and permanganate of potash; they first act as deodorizers, and then as disinfectants, but they must be employed in large quantities to thoroughly oxidize or act upon organic matters, so as to prevent them from again entering into decomposition; but still it is known that if the organic substances so acted upon are exposed to the atmosphere, they will again experience decay and putrefaction. They are, in fact, more destructive agents than disinfectants, and they are never antiseptics.

Antiseptics.—All of these, such as corrosive sublimate, arsenious acids, carbolic acid, &c., act as such by destroying all source of decay and decomposition; that is to say, they destroy or prevent the formation of the germs of putrefaction or fermentation, without acting upon the mineral or vegetable matters present. The advantage of their use is, therefore, that they act, when used in small quantities, upon the primary source of all organic matters in a state of decay; further, they are deodorizers, for they prevent the formation of offensive odors, and consequently they are antiseptics, disinfectants and deodorizers. The great advantages which carbolic acid possesses over all other antiseptics is, that it cannot be used for any illegal purpose, as arsenic or corrosive sublimate may.

And allow me further to add, that disinfectants—such as chlorine, permanganate of potash, or Condy's fluid—operate by oxidizing not only the gaseous products given off by putrefaction, but all organic matters with which they may come in contact; whilst carbolic acid, on the contrary, merely destroys the causes of putrefaction, without acting on the organic substances. The great difference, therefore, which distinguishes them is, that the former deals with the effects, the latter with the causes. Again, these small microscopic ferments are always in small quantities as compared to the substances on which they act; consequently a very small quantity of carbolic acid is necessary to prevent decomposition. Moreover, carbolic acid is volatile; it meets with and destroys, as Dr. Jules Lemaire says, the germs or sporules which float in the atmosphere and vitiate it; but this cannot be the case with Condy's fluid, chloride of zinc or iron, which are not volatile, and which act only when in solution, and are mere deodorizers. This is why carbolic acid was used with such marked success, and therefore so largely, in England, Belgium, and Holland, during the prevalence of cholera and of the cattle plague. Mr. W. Crookes, F.R.S., not only states, "I have not yet met with an instance in which the plague has spread on a farm where the acid has been freely used"; but he has also proved, by a most interesting series of experiments, that the gases exhaled from the lungs of diseased cattle contained the germs or sporules of the microscopic animals discovered by Mr. Beale in the blood of such animals; for Mr. Crookes, having condensed on cotton-wool these germs, and having inoculated the blood of healthy cattle with them, they were at once attacked with the disease.

As to the value of carbolic acid for preventing the spread of cholera, among many instances which I could cite, allow me to mention two special instances: First, Dr. Ellis, of Bangor, says—I have, in many instances, allowed whole families to return to cottages in which persons had died from cholera, after having had the cottages well washed and cleansed with carbolic acid, and in no case were any persons allowed to enter such purified dwellings, attacked with the disease. Prof. Chandelon, of Liegé, has stated, that out of one hundred and thirty-five nurses who were employed to attend upon the cholera patients—and they must have been numerous, for two thousand died—only one nurse died; but the nurses were washed over and their clothing sprinkled with carbolic acid. In fact, the antiseptic properties of carbolic acid are so powerful that the $\frac{1}{1000}$, or even $\frac{1}{1500}$ will prevent the decomposition, fermentation, or putrefaction for months of urine, blood, glue solution, flour paste, &c. &c., and its vapor alone is sufficient to preserve meat for several days in ordinary atmosphere, and prevent its being fly-blown; lastly, $\frac{1}{10000}$ has been found sufficient to keep sewage sweet, for Dr. Letheby states, that through the use of such a quantity of carbolic acid in the sewers of London during the existence of cholera last year, the sewages of the city were nearly deodorized.

Allow me to say now a few words on the medicinal properties of carbolic acid. This question deserves to be treated thoroughly, for phenic acid is susceptible of so many applications in this direction, its properties are so marked, so evident, and so remarkable, that they cannot be made too public, and it is rendering a service to mankind to make known some of the employments of so valuable a therapeutic agent.

I would recall to you the words of the good and learned Gratiolet, and those of Dr. Lemaire, showing that carbolic acid is the most powerful acknowledged means of contending with contagious and pestilential diseases, such as cholera, typhus fever, smallpox, &c. Maladies of this order are very numerous, but in carbolic acid we find one of the most powerful agents for their prevention; for besides many instances which have been cited to me, I may add one where it was used in a family in which there were eight or ten children, and none of the family have suffered from these diseases except those who were attacked previous to the employment of carbolic acid about the dwellings in which such diseases existed.

Besides its antiseptic action, the caustic properties of carbolic acid are found useful; most beneficial effects are obtained from it in the treatment of very dangerous and sometimes mortal complaints, such as carbuncle, quinsy, diphtheria, &c., as shown by Dr. Turner, of Manchester; and also in less severe affections, such as hæmorrhoids, internal and external fistulas, and other similar complaints. But what must be especially mentioned is the employment of carbolic acid in preserving in a healthy state certain fœtid purulent sores, and preventing the repulsive odor which comes from them, an odor which is the symptom of a change in the tissues, and which often presents the greatest danger to the patient.

The services which carbolic acid renders to surgery can be judged of by reading several most interesting papers on compound fractures, ulcers, &c., lately published in the *Lancet* by T. Liston, F.R.S.; and allow me to draw your special attention to the following paragraphs which are to be found in his paper published in that journal of the 25th of September, 1867:—

"The material which I have employed is carbolic or phenic acid, a volatile organic compound, which appears to exercise a peculiar destructive influence upon the low forms of life, and hence is the most powerful antiseptic with which we are at present acquainted. The first class of cases to which

I applied it, was that of compound fractures, in which the effects of decomposition in the injured part were especially striking and pernicious. The results have been such as to establish conclusively the great principle that all the local inflammatory mischief and febrile disturbance which follow severe injuries are due to the irritating and poisonous influences of decomposing blood or sloughs. These evils are entirely avoided by antiseptic treatment, so that limbs which otherwise would be unhesitatingly condemned to amputation may be retained with confidence of the best result. Since the antiseptic treatment has been brought into full operation, and wounds and abscesses no longer poison the atmosphere with putrid exhalations, my wards, though otherwise in precisely the same circumstances as before, have completely changed their character, so that during the last nine months not a single instance of pyæmia, hospital gangrene or erysipelas has occurred in them."

The same remarkable results have likewise occurred in the two sick wards of Dr. Maisonneuve, at the Hôtel Dieu. Further, I must not overlook the valuable application made of it to gangrene in hospitals by the eminent physician, James Paget, Esq.; and, lastly, it has been used by many of the most eminent medical men with marked success in those scourges of humanity—phthisis and syphilis.

R. Ogden Doremus, M.D., Professor of Chemistry and Toxicology in Bellevue Hospital Medical College, says:—"Of late years carbolic acid has taken a prominent position among the agents capable of destroying infection. It has been found, in our hospitals, that even washing the woodwork of the rooms with a diluted solution of this substance causes certain diseases to disappear. This disinfecting property will, no doubt, be recognized by the Board of Health, as it tends to rid us of pestilence by neutralizing the filth of hitherto diseased districts, and increasing the value of property not only in those localities, but throughout the city."

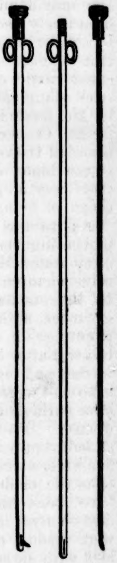
Dr. Lugo, of New York, says:—"The only proper way to introduce carbolic or cresylic acid into general use, is in the shape of soap."

Dr. Harris, Registrar of the Metropolitan Board of Health, in his circular to the public, issued during the summer of 1867, says: "The disinfecting and antiseptic powers of good carbolic acid are so great that one part of it to fifty or one hundred parts is sufficient," and that, "if every tenement house in the city were frequently and thoroughly scoured with the cresylic soaps, the seeds of disease and insect annoyance would be greatly diminished."

A NEW FORM OF CONCEALED KNIFE.

By A. J. Stone, M.D., Assistant in Practice to Prof. H. R. Storer, and Assistant Surgeon to the Franciscan Hospital for Women, Boston.

I would, through the columns of this Journal, call the attention of the profession to the merits of a concealed knife, of my invention, which, although contrived for the relief a single case of phymosis, may be made useful in a number of ways.



As will be seen by reference to the annexed cut, it consists of—

1st. A cylinder the size of a No. 1 catheter, seven inches in length, at one end of which is a male screw thread, also loops by which the instrument may be steadily held in the hand. At the other end is a slot, two lines in length by one third of a line in width, approximating as nearly as possible to the extreme end of the cylinder, within which is laid an inclined plane of hard solder.

2d. Within this tube fits a steel shaft holding, by a rivet-hinge, a fine steel blade, three lines in length by a line and a half in width, the same being of "scythe" shape, thus affording a convex back, which slides easily upon the inclined plane contained within the cylinder. At the opposite extremity is a "cap-screw," with internal female screw-thread fitting over, and consequently allowing the cylinder to fit between the shaft and itself, being retained in place, and, at the same time, allowed rotary motion by the shaft being riveted through it.

Where phymosis results from the cicatrizing of old sores, there are but two ways of operating, namely, the usual ones of circumcision and of slitting up the prepuce to either the *corona* or to its jointure with the *corpora cavernosa*. When, on the contrary, the phymosis is congenital, it may be of two, and possibly of three, classes (though of the latter I have never seen a marked case).

A. Constriction of *both* integument and mucous membrane, in either, lines longitudinal with the axis of the penis, or in bands surrounding the glans like a ring.

B. Constriction of only the mucous lining of the prepuce, with comparative laxity of the overlying integument, as evinced by its wrinkles, whose direction is rectangular to that of the constriction.

(Perhaps) C. A contraction of integument without corresponding contraction of the mucous lining.

As stated above, it would seem that the ordinary methods of surgical treatment are the only available ones in the first and third classes, while to use them in cases embraced in the second class would seem a needless mutilation if a division of the mucous membrane would secure as good a result.

While it is presumption for me to present to the profession, as valuable, any instrument or invention which has had but one fair trial at my hands, still it would be unprofessional and unfair for me to withhold anything which offers a reasonable hope of being, however slight, an aid to the physician or a comfort to the patient.

On Monday, the 25th of November last, I etherized Mr. J., of Boston, aged 18, and divided three congenital ring-like strictures of the mucous membrane, passing in the cylinder with the knife concealed, then screwing up the shaft and cutting as I withdrew the instrument; also dividing with scissors about one fourth of an inch at the extremity, the same being a constriction belonging properly to class A, as given above. The case progressed rapidly, and was in every respect a complete success.

While at my hands this instrument has proved useful as a scarificator of the cervical canal, it has found more thorough trial in the practice of physicians out of the State, who have reported favorably as to its utility, one having had the instrument made of a uniform curve, like Prof. H. R. Storer's female catheter, and used it to advantage in uterine scarifications and stricture of the urethra.

The instrument is made for me in a very neat and thorough manner by Messrs. Leach and Green, of this city.

M. Roussin has proposed the use of bichloride of mercury for the detection of kreatinine in urine; kreatinine is precipitated from its solutions by the mercurial salt.—*Chemical News.*

MEANS OF ARRESTING HÆMORRHAGE.

Mr. Editor,—In the Journal of the 4th inst., I find the "Boston City Hospital Report," by F. C. Ropes, M.D., in which he remarks:—"The means of arresting hæmorrhage may be enumerated as follows. 1st. Ligature of vessels at the seat of hæmorrhage; 2d. Ligature of the main trunk at a distance from the wound; 3d. Pressure; 4th. Position; 5th. Cold and styptics; 6th. Amputation." He further adds, "if an artery of any size is wounded it ought to be tied in the wound. It is worse than useless waste of time to trifle with other means."

The Doctor is undoubtedly sincere in his remarks, but my own experience would not confirm them. I have had two cases of punctured wound, cutting the posterior tibial artery midway between the knee and foot. They could not be ligated in the wounds unless enlarged to a considerable extent. But without "freely dividing the skin and fascia," small, fine sponges were saturated with persulphate of iron and firmly pressed in the wounds one after the other until filled, then a compress and bandage over them. After several days, the sponges were carefully removed, followed by little or no hæmorrhage. The wounds kindly healed.

I believe hæmorrhage from even larger arteries could be instantly stopped in this manner. Of course it is necessary not to remove the sponges too soon.

With due deference to Dr. Ropes,
Yours respect'y, Geo. W. Rossman.
Ancram Lead Mines, N. Y.

SYRUP OF LIME IN RHEUMATISM.

Mr. Editor,—In the Journal for February 28th, 1867, Dr. Buckingham brought forward the syrup of lime in the treatment of rheumatism. I have now treated fifteen cases of acute rheumatism with the syrup of lime, using no other remedy, and the result was a cure in from ten to sixteen days. Very truly yours,

Carl H. Smith.

Kenton, O., June 11, 1868.

A Singular Fistula.—In the *Bulletino delle Scienze Mediche*, published at Bologna, there is an interesting extract (from *l'Imparziale*, Oct. 1st, 1867), with regard to a singular fistula. It was utero-intestinal in its character, and followed a difficult labor. —*N. Y. Medical Record.*

CONCERNING HEMICRANIA.

By Dr. Möllendorff, of Berlin. (Translated and condensed from Virchow's Archiv, vol. xli. by S. G. Webber, M.D.)

Although this disease is so well known, it lacks a physiological interpretation. Romberg considered it a cerebral neuralgia. Hasse objected to this, as the term could be applied equally as well to irritation of the trigeminal within the cranium.

It will be shown that hemicrania is partly due to unilateral debility of the vasomotor nerves which control the carotid artery, whereby that artery is relaxed and arterial determination to the cerebrum is produced. This vasomotor debility may arise by sympathy from derangement in various parts of the body; hence the many divisions of hemicrania made by authors—stomachal, plethoric, iridian. The only division admissible is idiopathic and sympathetic. Its intermittent character distinguishes it as an affection of the sympathetic. It appears at more or less regular intervals, especially among females. The congestion which is likely to occur just before or after menstruation, is likely to cause an attack—a congestion analogous to that which occurs at the same time in the breasts.

Mental excitement—as anger, grief, care—does not cause periodical attacks; it may be absent under such circumstances, but it more frequently appears, not, indeed, on the same day in which the disturbance occurred, but with waking on the next day. Prolonged use of the eyes will give rise to an attack. A violent wind blowing upon the uncovered brow or neck will also cause an attack. On the other hand, disturbance of digestion causes it less frequently. Gout, especially in its less usual form, where there is no attack of podagra, is also a cause.

Sometimes one side, sometimes the other, is affected; the pain may be in one side in the morning, cease at noon to re-appear later in the other side, where it will continue till night. The attack usually commences in the morning by a feeling of pressure or tension over the brows. The pain increases in intensity and spreads to the temples and vertex. The tension becomes so strong that it seems as though the head would burst; there is also beating of the arteries, so strong as to prevent thought. This beating is increased by lowering the head, and thereby unconsciousness may be produced. Every movement, even chewing, excites a severe paroxysm.

The same tenderness and tension is felt in the eyeball, whose movement is interfered with; also in those parts supplied by the branches of the internal carotid artery. Sympathetic sensations are found in the ears, as buzzing, sensitiveness to loud noises; in the optic nerve, as flashes of light, clear, revolving stars; both pupils are contracted; von Gräfe has observed partial obscurity of the field of vision. The scalp, on the affected side, is sensitive to a slight touch; less so by a strong pressure. Itching and crawling sensations in the skin remain after the cessation of the attack.

If the common carotid is compressed on the affected side strongly enough to weaken the pulse in the temporal artery, the headache ceases. Removal of the pressure causes the pain to return, and it is more intense than before during the first pulsations. Compression of the carotid of the other side, or of the subclavian of the same side, increases the pain, if it has not yet reached its height, as a larger amount of blood is thereby forced into the relaxed carotid. If the pain is at its maximum, then compression of the carotid on the side not attacked relieves the pain, by facilitating the lateral flow of the blood in the healthy side. This experiment has been performed with invariably successful results, when the patient has been seen during the attack. As clear proof of the arterial congestion is afforded by the ophthalmoscope; but care is necessary in the examination, from the sensitiveness to light. In one person, both whose eyes showed a normal picture during health, the back-ground of the eye on the affected side was, during the attack, of a lively scarlet-red, the optic papilla reddened and blended (verwaschen), the artery and veins broader, and the latter more knotted and coiled, and of a much darker color than natural. The eye on the side not affected was normal. The severest attacks give the most conspicuous ophthalmoscopic results.

The pulse sinks during the attack of hemicrania from 72 or 76 to 56 or 48. The radial pulse is small and contracted; the carotid and temporal pulse are soft and full. The respiration is prolonged, and accompanied with sighing. Corresponding to the disturbance in the circulation, the temperature of the extremities is diminished, and that of the affected side of the head is increased.

These symptoms correspond with those obtained on animals by section of the cervical portion of the sympathetic: namely, dilatation of the vessels, beating of the smaller arteries, increase of the blood-pressure and of the temperature on the wounded side; and these symptoms disappear when the upper extremity of the divided nerve is galvanized. Moreover, Bernard asserts that the sensibility of the injured side is increased. According to Brown-Séquard, the sight and hearing are sharpened.

From these facts, and from the results of ophthalmoscopic observation, as well as the effects of pressure on the carotid, there cannot well be any doubt that the tonicity of the circular muscular fibres of the arteries is diminished, allowing expansion of their walls and a gradual accumulation of the blood, owing to the rigidity of the walls of the sinuses not allowing the increased supply to flow off with sufficient rapidity. The hemispheres are filled with blood and press upon the rigid walls.

We must hence distinguish between the central irritation through arterial congestion and symptoms of pressure. To the former belong dislike and impossibility of mental exertion; hyperæsthesia of smell, sight and hearing; increased sensibility of the scalp to touch, diminished in regard to pressure; nausea, through irritation of the roots of the glosso-pharyngeal and vagus. To the latter, obscurity of the field of vision, difficult motion of the eyeball, diminished reflex power of the trigeminus.

The symptoms of pressure are wanting in the nerves which leave the skull below the tentorium cerebelli.

The slow pulse is explained by the researches of Gottz, which show that where the tone of the vessels in any region is lost, weakness of the heart's action follows.

The cause of hemicrania may be found in relaxation of the vessels following a contraction which is of reflex origin. The confinement of the attack to one side may be explained by the fact, that it is usual in double organs for one to act while the other is more inactive; thus only one ovary at a time produces an egg; at one time one kidney, at another time the other, secretes the more urine.

Hemicrania is hereditary in many families, and affects either males or females indifferently. That which appears before puberty must be considered as idiopathic; after puberty it is sympathetic.

As to therapeutics, where the disease exists idiopathically in a young person, or is threatened, the chief endeavor should be, by elevating the general tone of the muscular system, to afford the muscles of the vessels power to resist irritating influences. Caffein, conia, strychnia, veratria, quinia, arsenic, ethereal oils, alcohol, cold seabaths and cold-water-cure often afford temporary relief, but it is not lasting. After the change of life, the cessation of the cause or the increasing loss of elasticity in the muscles of the arteries sometimes affords relief. Springs containing carbonate and sulphate of soda are to be avoided; those containing chloride of calcium and sodium may be visited.

Hospital Reports.

BOSTON CITY HOSPITAL.

Record of some of the more important Operations for the Month of May, 1868. Reported by F. W. Draper, House-Surgeon.

Case I.—*Popliteal Aneurism; Acupressure.* (Care of Dr. D. W. Cheever.)—L. I., a nervous Frenchman, 50 years of age, had had aneurism of the popliteal artery during the fourteen months previous to his entrance to hospital. It first appeared as a pulsating, painless nodule in the left popliteal space. It developed steadily until nearly the whole of that space was filled by it. Its longitudinal diameter was about four inches, and its transverse two and a half, while the difference in the circumference of the two knees was three fourths of an inch. Its shape was regularly ovoid, and its walls were thin and easily compressible, the pulsations being very distinct. The femoral artery could be felt with uncommon ease, lying along the bottom of Scarpa's triangle, in a thigh which, in common with the rest of the body, was decidedly emaciated. The heart was apparently hypertrophied. In his occupation as a watchmaker, the patient had used a treadle-lathe, and he believed his aneurism to have been aggravated in consequence. On entrance, his condition was rather enfeebled.

During the ten days succeeding his admission to hospital, his strength was perceptibly improved under the administration of tinct. ferri chlor. gtt. xxx. ter die, although there was no perceptible change meanwhile in the size or condition of the aneurism—the pain being inconsiderable except on motion.

Acupressure of the femoral artery was performed as follows: the patient having been thoroughly etherized, the leg and thigh of the affected side were partially flexed, and the thigh was rotated outward. A straight incision, three inches long, was made through the skin and subjacent fascia, in the apex of Scarpa's triangle. The femoral artery was easily reached, lying superficially beneath the edge of the sartorius muscle. The arterial sheath having been carefully opened, the artery was slightly detached, and held in the hollow of an aneurism-needle, while a director was inserted beneath, passing from within outward, under the artery, and between it and the vein.

A Simpson's acupressure needle, four inches long, of steel wire of the size of a small knitting-needle, and with lance-shaped point and a glass bead at its head, was passed through the skin, entering at a point three fourths of an inch from the external edge of the incision. With the point directed inward and slightly downward, it was pushed through the sartorius muscle and emerged over the femoral artery, so that its point rested in the groove of the director, on the inner side of the arterial sheath, the vessel itself lying in the apex formed by the two instruments, the needle above and the director below.

The direction of the needle was now reversed in the groove of the director, in such a manner that the point looked outward from beneath the artery, while, by this means, the sartorius was brought firmly down from above. It was pushed outward until its point rested on the anterior surface of the femur. The artery was thus effectually compressed, and pulsation ceased at once in the aneurism, its walls becoming more lax. Less than ʒss. of blood was lost during the operation, and the shock was very slight. The wound was closed with silver-wire sutures.

Recovery from ether was speedy, without nausea, and there was no considerable pain in the affected limb. At the second hour after the operation, it was discovered that the aneurism was pulsating slightly. It was controlled readily by rotating the head of the needle outward, and confining it in place by adhesive straps around the thigh. At the eighth hour, the aneurism was obviously becoming indurated, and its walls were less compressible than before the operation. Meanwhile the patient had taken liquid nourishment, and his pulse had ranged from 68 to 92. There were occasional darting pains through the popliteal space and two or three slight rigors. One fourth of a grain of sulphate of morphia was administered subcutaneously at night, and with it there was a fair night's rest.

At the nineteenth hour, there was a smart chill, and pulsation had returned in very slight degree in the aneurism, but not in the posterior tibial artery. Pulse 120. No pain. ℞. Morph. sulph. gr. ¼ subcutaneously. The aneurismal tumor was now as hard as a nut, and contracting. There was no obvious change in the appearance or condition of the leg otherwise.

During the following day, there was a single chill, with some pain running the whole extent of the affected limb. The region about the wound was marked by an erythematous blush and was tender. The pulsations of the femoral artery could be seen plainly where it passed over the needle, and the pulsations also in the aneurism were again just perceptible. The wire sutures were removed, and a lotion of diluted carbolic acid applied to the wound. Quin. sulph. gr. i. was given ter die, and ¼ gr. of sulph. morphia at night, subcutaneously.

The third night was very quietly passed, and on the following morning it was observed that the aneurism was entirely occluded, and was reduced to the size of an English walnut. Pulse 100. There was considerable pain in foot and ankle. During that day, purple lines and livid spots were observed upon the foot and extending above the ankle, and the leg below the knee was cold. The whole lower extremity was packed in cotton, and heaters were applied. The pain required two doses of morphia, one fourth of a grain each, subcutaneously. The appetite, which before had been fair, began to decline. Pulse 120 to 140.

On the following day, ninety-six hours after the operation, the needle was withdrawn; a single drop of pus followed. The erysipelatous blush about the wound had increased until the whole upper third of the thigh was involved, and the thigh in all its extent was œdematous. The whole foot was livid and distorted by muscular contraction. The internal saphena vein was distended at the instep, and could not be emptied by pressure. Charcoal poultice was applied to the thigh, and the dose of the stimulants, which had been administered since the second day, was increased and given more frequently.

The blush and œdema extended from the thigh to the abdominal walls, rigors succeeded, with intense pain in the whole limb, the lividity and coldness gradually involving the thigh, and the weakness of the patient became obviously increasing. Pulse 140. Mind clear. ℞. Morph. sulph. gr. ⅓ subcutaneously.

During the night following, there was a steady decline, all the grave symptoms being intensified. Lividity extended from thigh to abdominal walls. Stimulation failed to produce effect, and at the one hundred and fourteenth hour after the operation, the patient died.

Observations on the temperature were taken throughout the case by means of an ordinary temperature thermometer (Fahrenheit), the groins and ankles being the points selected. These results are briefly as follows. Before acupressure, the temperature of the affected limb, both above and below the knee, was about one degree higher than that of the other.

After the operation, the temperature of the affected thigh fell at once below that of the other, and remained two degrees lower until the third day, when it rose above, marking the change produced by the erysipelatous inflammation. From this time until the end the change was slight, the range being 100° to 100·5°.

In the two feet, the changes were more marked. Four hours before the operation, the thermometer indicated the temperature of the left foot (on the side of the aneurism) as 90°, while at the right ankle it was one degree higher. Six hours after the acupressure, the relation was reversed, the sound limb being one degree lower than the other. Before the eighteenth hour, the temperature had risen in the right foot seven degrees and a half, and in the left five degrees. From this period the right ankle continued very nearly stationary until the end. In the left foot, there was no noteworthy change until the sixty-sixth hour, the morning of the third day; at that time the temperature had risen to 99·5°, marking the change produced by the complete occlusion of the aneurismal sac and the cessation of the circulation. In less than twelve hours from this period there was a decline of eight degrees, and in twenty-four hours of eighteen degrees, marking the steady advancement of gangrene in the isolated extremity. The last observation, taken about twelve hours before death, gave the temperature of the right foot 97·5°, and that of the left, 80·5°.

Zylic Acid.—An acid has been separated by M. Lefort, from substances in the trunks of old trees, to which he gives the name zylic acid. This acid possesses the formula $C_{24}H_{14}O_{16}+HO$; it presents itself in the form of a vitreous, black, hard substance.

This is undoubtedly the basis of all compounds studied up to this time, under the name of ulmic and humic acids.—*Chemical News.*

Medical and Surgical Journal.

Boston: Thursday, July 2, 1868.

HOW TO STUDY MEDICINE.—No. II.

There can be very little doubt that a mistake is committed in supposing that a young man can learn medicine better in a physician's office than in an established school; in the country than in the city. Apart from the increased number of hours of instruction that a school affords, the single teacher is more prone to interruptions, and must have far less to show his pupils than a great metropolitan school.

It is only in cities, or large towns, that first-rate facilities can be afforded for teaching and illustrating Anatomy and Chemistry, and for giving clinical instruction. The great mass of ordinary, and the occasional rarer cases that pass under the student's eye in the clinics of hospitals and dispensaries, furnish him with means of instruction greater than he could accumulate in many years of study in a village. Besides this, he is stimulated by the presence of fellow-students; and that mutual attrition, which sharpens the faculties of the professor in the competitive struggle for success in a centre of population, reacts insensibly upon the student also.

Convinced as we are of the great advantages conferred by school instruction over that by individuals, we hail with pleasure every new means to prolong our collegiate course throughout the year. And while we have not hesitated—and shall not in future—to speak plainly of such defects as exist in the medical schools of any part of our country, we can honestly give to the Medical College of Massachusetts the credit of having been the first to establish, as well as to enlarge and perfect, a course of summer instruction. Its present summer term we know to be esteemed more valuable than the winter lecture course, by all who remain in the school throughout the year. Practical anatomy and analytical chemistry; clinical instruction, in its widest sense, and daily recitations, and courses on separate topics, combine to make the summer course of medicine of infinitely more use to the student than instruction by any single teacher, however able.

We can, then, dismiss the idea that medicine is best learned in solitudes and by books alone. And by the following extract from the *Lancet* of April 4th, 1868, it will be seen that similar ideas of medical education are agitating the great centre of London also. We quote from a "Scheme of Medical Tuition," by E. A. Parkes, M.D., F.R.S., Member of the General Council of Medical Education.

"As a teacher of twenty years, and an examiner in medicine of fifteen years standing, I am desirous of stating the kind of tuition, and the succession of subjects which I believe would be best for students intended for general practice.

"A young man of seventeen or eighteen years of age, passes his preliminary examination in general education, and has then four years to study before he can obtain a diploma admitting him to general practice. He is necessarily profoundly ignorant of all the subjects he is about to study; for it is futile to suppose that we can insist on a special scientific education for those who desire to enter the medical profession.

"It is becoming the custom in England to pass either the whole, or the first three years at a medical school. The regulations permit, however, a different course. One year, or eighteen months are permitted to be passed in the surgery of a recognized medical practitioner. This permission heightens the uncertainty of tuition, since it is clear that the chances of acquiring knowledge must be greater in a medical school than in the surgeries of busy practitioners, who sometimes want the inclination, often the time, always the means of instructing their pupils in those branches of knowledge which underlie medical science. Happily this modified apprenticeship is becoming less and less common. It is, for the most part, mere waste of time."

The following paragraphs contain ideas so similar to those we endeavored to convey in our former paper, on Anatomy, that we append them here.

"Anatomy has always been better learnt than any other part of medical education, simply because it has been more practically taught. The usual method is for the teacher to lecture once daily to the class for an hour, showing dissections and organs on the dead body. Of late years small classes are often taught by demonstrators by the aid of recent dissections. According to the supply of subjects, each student himself dissects more or less; but a minimum of dissection is required by the regulations. The lecture, to a large class, is often not effective; the parts cannot be well seen by many, and the rapidity with which the lesson is gone over is very embarrassing to a beginner."

"Can nothing be done to make the teaching more effective? Could not a complete tutorial scheme be adopted, and classes of limited numbers be formed, directed, it may be, by the demonstrators or older students, and superintended by the teacher, in which, commencing with the bones in their hands, and then passing on to the soft parts, the student should go over and over again the important practical points."

"An extreme prominence is given by some teachers to minute points which are of no real practical value, and which the student learns only to forget. Others spend much time on transcendental questions of analogies and developments. The end, however, of the tuition must be kept in view; the time is limited, and the knowledge must be also; but though limited, it should be thorough and practical, having a direct bearing on future work."

"At the end of the first winter session, at the cost of six hours' daily work, with additional private reading, I conceive any student should have a fair and accurate knowledge of chemistry and anatomy. He will, however, have finished with neither subject."

"The second winter session should be given to surgical and medical anatomy and to physiology. By surgical anatomy I mean not only the anatomy of the important surgical regions, but such matters as the position of the bones in dislocations, as shown on the skeleton; the most usual places of fracture, the position of the bones and the action of the muscles in such fractures, &c. &c. So, also, in medical anatomy, the position of the organs to each other and to the surface; the relation of the parts of the organ to each other; the method of laying bare the parts on making a *post-mortem* examination, and other points of the kind should be gone through practically in the dissecting room."

We pass now to the subject of chemistry. As an exact science, this also claims a portion of the first year's study, and should be studied in a practical manner. It is, if possible, even more fundamental than anatomy, dealing as it does with the ultimate elements of the tissues. Analysis or synthesis can be used in the study of chemistry, and it seems to us that the former, illustrated by experiments, is the simplest way to begin. At any rate, we should insist on the teaching of the laboratory more than of the lecture-room. For it is doubly true here that the student can only learn to understand such a subject by actual experiments of his own making. On this point, says Dr. Parkes:—

"In chemistry, a winter of formal lectures is followed by a summer of practical work. Although the teachers are the first chemists of the day, the results, as regards the mass of students, are not satisfactory."

"What appears to be the best way of gradually initiating these young men into a difficult subject? Would it not be better to begin at once with practical teaching, making every student perform the experiments which would lead him on, step by step, and give him sure ground at every point; and then when he had some idea of elementary points, to explain, in a few clear lectures, the generalizations which bind together and explain the scattered facts he has practically learnt?"

There are three divisions of the subject which should particularly claim the attention of the practical student and physician, viz., toxicology, the analysis of urine, and the chemical incompatibles in pharmacy. A knowledge of organic chemistry is, if possible, more absolutely necessary than of inorganic.

The chemistry of poisons has been by no means so much insisted on in this country as in Europe. Were the great body of practitioners reasonably expert in the detection and treatment of poisoning, less unknown crime would escape conviction, and our profession would appear to much greater advantage in courts of justice.

It is impossible to over-estimate the value of urinary analysis. Not only are many diseases detected by this means alone, but, as is always the case, no sooner does the diagnosis of such diseases become easy, than we find them to be far more common and prevalent than we had supposed. The connection of certain states of the urine with inflammatory diseases, the unsuspected existence of Bright's disease, or oxaluria, are but a few of the many examples of valuable knowledge conveyed by this means alone. And we believe that the time will yet come when life insurance companies will require a urinary analysis before accepting important risks. All this the student should learn for himself, practically, and not hear it only from others. He must work with the test tube in his hand, and with the microscope not far off to verify his discoveries, in order to acquire a real, useful knowledge for his future years. One urinary analysis made by himself is almost worth a course of lectures.

So, too, in studying what drug or ingredient is incompatible with another in combination, he must learn by absolute and visible admixture, in order to remember what he sees. And such a knowledge is certainly of far more importance to him than the language of symbols, or that of crystallography, as propounded in a lecture-course.

PRESENTATION OF THE ETHER MONUMENT TO THE CITY OF BOSTON—ADDRESS OF DR. HENRY J. BIGELOW.

It is known to many of our readers that the late Mr. Thomas Lee had presented to the city a monument (to be placed in the Public Garden) in commemoration of the discovery of the anæsthetic properties of sulphuric ether. This monument has just been completed, and on Saturday afternoon last was formally delivered to the City Government by Dr. Henry J. Bigelow, speaking in the name of the donor, in the following words:—

Mr. Mayor,—It was the wish of the late venerable gentleman who caused this monument to be erected, to rear an enduring memorial of the discovery in Boston, from which dates the erà of painless surgery; and also that on some fitting occasion it should be offered for the acceptance of his fellow citizens.

In no act of a long life characterized by many deeds of liberality, by the exercise of a refined and cultivated taste for nature and for art, and by a discriminating judgment of men and of passing events, did he show greater discernment than when he organized this work; and although he did not live to see it executed, he had so far supervised its plans, and so intrusted them to skilful hands, that no difficulty was met with in completing its beautiful design in detailed conformity to his wishes.

This monument is intended, in the words of the tablet, which were written since his death, " To commemorate the discovery that the inhaling of Ether causes insensibility of pain; first proved to the world at the Massachusetts General Hospital, in Boston, October, A.D. 1846," by its appliance during a protracted dissection which, when followed by one of the severest operations known to surgery, was a final and conclusive test in a close and connected series of successful experiments, which proved that pain could be anulled, first, with certainty, no matter who the individual; secondly, with completeness, no matter how great might be its degree; and thirdly, with safety. These three points were all absolutely involved in the discovery, and these alone. Before the consecutive experiments which culminated in those here recorded, neither of these points had been established by conclusive proof. The world was ignorant of the great truths they asserted, the discovery had not been made.

The philanthropist had indeed yearned to relieve suffering humanity; the poet had prophetically announced a world freed from physical pain; the philosopher had made fruitless efforts to unveil the hidden secret. Instances of accidental insensibility had been observed. Here and there an ingenious man had devised and tried some single experiment with greater or less success, and then abandoned the pursuit; or tantalized by a possibility at one moment in his grasp, and in the next eluding it, stimulated by a flattering promise of achieving something at once practical and useful, had followed up his experiments hopefully, until some great public failure disheartened him, made his proselytes incredulous, and left the world still to suffer pain.

Men had been made insensible to pain through mental excitement, or by the agency of mesmerism or hypnotism, by the dead drunkenness of alcohol, the narcotism of opium, the inhalation of nitrous oxyde and other gases, and even by the vapor of ether. For years all this had been known to be possible, but it attracted little attention. These previous experiments instituted by different persons were inconclusive because they led to no constant result; the anæsthesia could not be relied on, or it was not demonstrated that it could be relied on, either as sure to occur or as proof against the severer forms of pain. The question of danger from this extraordinary trance was also unsettled. No consulting board of surgeons would have dared to sanction the production of prolonged unconsciousness during an operation, before the series of consecutive experiments were made here in Tremont street and at the hospital. There had been a lack of perseverance or of good fortune in the experimenters, or an imperfection in their materials or method, and the future discovery which was soon to burst upon the world halted for an interval of years at this imperfect stage. The whole progress of all invention and discovery had been a monotonous catalogue of such imperfect efforts and such failures. But when these consecutive experiments had been made in Boston, the discovery had been made; and in grateful and unhesitating recognition of it the entire civilized world simultaneously rose up to hail it with acclamatory welcome.

Thus was made the discovery, and thus was begun the career of anæsthetic inhalation. Modifications, imitations, and substitutes, have sprung up in all civilized countries. New processes and new materials will yet be furnished by science, or demanded by convenience or economy, but after more than twenty years of its successful trial, nothing has been found to surpass, in its efficiency or unqualified safety, the original ether then used.

To commemorate the triple and demonstrated discovery, not of a probable, an uncertain or untrustworthy, but of an inevitable, complete and safe anæsthesia, this monument has been erected in a city which was the humble instrument of Divine Providence in diffusing to the nations this incalculable blessing.

I well remember when the eloquent and gifted man whose brazen effigy on yonder pedestal so powerfully recalls his living presence, in an address delivered at the Medical College on the 4th of November, 1846, said, with an unconscious foreshadowing of what was soon to happen, " I cannot suppress the remark that the great principle of analogy seems to authorize the hope that . . . . further discoveries may be expected scarcely less brilliant than that of vaccination." How far even this prophetic inspiration fell short of the reality! How little did he dream that the lapse of a few brief days would herald to the earth the greatest boon ever accorded to the physical welfare of mankind; days of discovery that forever silenced the dreadful shriek of agony which many of us can yet recall in the surgical amphitheatre of the Institution which is now immortalized, that stilled the moan of the soldier stricken down upon the battle field, assuaged the pangs of disease, softened the approach of death, and lent a sweet obliviousness in what was once its hour of anguish, to all animal existence, from the poor suffering brute up to humanity, to man born of woman and to woman of whom man is born.

In the name and at the request of my venerable friend, the late Mr. Thomas Lee, of his executors, and of the gentlemen to whom he intrusted the arrangement of this ceremony, I offer this memorial to you, sir, and through you to the city of Boston.

Mayor Shurtleff, in behalf of the City Government, briefly acknowledged the gift.

A prayer by Rev. Dr. Lothrop concluded the ceremonies, and the spectators separated.

The following description of the monument is from the "History of the Water Works," by Nath'l J. Bradlee, President of the Cochituate Water Board:

> The form of the monument is suggested by mediæval types, modified by the nature of the white Concord granite used in its construction. It is about thirty feet in height, and arises from a square basin. Its base is cubical, leaving on each vertical face a niche containing a spouting lion's head, with sculptured water lilies and other aquatic plants. Upon this base or plinth rests a surbase, adorned with mouldings, from which arises a die, bearing upon each of its four sides an inscription, surmounted by a bas-relief in marble. These are sunk in the tympana of four pointed and cuspidated arches, supported each by two stunted shafts of Gloucester red granite, the capitals of which are enriched by poppies and oak leaves, this decoration being carried around the monument on the same level in a band or string course.
>
> These arches form a canopy, square in plan, from which the structure diminishes by a series of mouldings to the base of a grouped quadripartite shaft of polished red granite. Its capital, which is decorated with oak leaves, bears on its abacus a group setting forth the story of "the good Samaritan," the type of the relief of suffering.
>
> The inscriptions and bas-reliefs on the four sides are successively as follows:
>
> I.
>
> To commemorate
> the discovery
> that the inhalation of ether
> causes insensibility to pain.
> First proved to the world
> at the Mass. General Hospital
> in Boston,
> October, A.D. MDCCCXLVI.
>
> The bas-relief accompanying this represents a surgical operation in a civic hospital, the patient being under the influence of ether.
>
> II.
>
> Neither shall there be any more pain.
> [Revelation.
>
> With an allegorical bas-relief of the angel of mercy descending to relieve suffering humanity.
>
> III.
>
> In gratitude
> for the relief
> of human suffering
> by the inhaling of ether,
> a citizen of Boston
> has erected
> this monument.
> A.D. MDCCCLXVII.
>
> With a bas-relief of a field hospital, with a wounded soldier in the hands of the surgeons.
>
> IV.
>
> This also cometh forth
> from the Lord of Hosts
> which is wonderful
> in counsel
> and excellent
> in working. [Isaiah.
>
> The bas-relief accompanying this inscription is an allegory of the triumph of science.

NEUROMATA.—We take the following from a notice of Virchow's Lectures on Tumors, in the *Medico-Chirurgical Review*.

A neuroma is, then, a tumor composed essentially of hyperplastic nerve-elements, with the addition of a certain quantity of connective tissue containing bloodvessels.

The word nerve-elements is here used advisedly, in that nerve-cells as well as nerve-fibres may enter into its composition, and we may have a cellular or ganglionic as well as a fascicular or fibrous neuroma. Its first formation is in most instances exactly identical with the first formation of new nerve-tissue in the repair of a nerve after section, not by simple division of or outgrowth from pre-existing nerve-tissue, but by means of a young, newly formed granulation-tissue (which, as we have seen in the previous reviews of this book, plays so conspicuous a part in the development of tumors generally), allied to the connective-tissue, whose elements are afterwards developed into nerve-tissue. The closeness of the link which connects the tumor under consideration with regenerating nerve-substance is seen in the "amputation neuroma," as good a type as can be brought forward of the fibrous neuroma in general. This bane of surgeons, the painful swelling of the nerves in stumps, was only at a comparatively late period found to contain an abundant supply of nerve-fibres in a dense, close-meshed network, prolonged into it from the trunk of the affected nerve. A continuity of the nerve with the tumor is evident in all cases: nowhere is the tumor set or imbedded in the nerve-end as the myoma in the uterus. Both kinds of nerve-fibre, the gelatinous or grey, as well as the tubular or white, are found in the fibrous neuroma—one of the many discoveries in pathology to the credit of which Virchow is justly entitled. Many of the so-called "painful subcutaneous tumors" are to be included among the neuromata, especially those which are remarkable for their hardness, which lie loose in the subcutaneous tissue, and vary from the size of a pea to that of a bean. One such tumor examined by Virchow was found to consist almost exclusively of nerve-fibres. They are generally met with on the extremities, are connected with the finest terminal branches of the nerves that ramify there, and are far more common in women than men. They are easily and successfully extirpated. At the same time it must be remembered that all the painful subcutaneous tumors described cannot be regarded as neuromata; for small subcutaneous tumors of any kind, muscular, vascular, &c., will, provided they involve in their growth some one or more nervous branches—and it is the small, sensitive, cutaneous branches which are particularly open to such impressions—give rise to the same painful symptoms as the true neuromata.

HYPEROSTOSIS OF THE ENTIRE SKELETON.—Professor Friedreich, of Heidelberg, observes that cases of hyperostosis of single bones or of groups of bones, such as those of the face, skull, or pelvis, are common; but instances where nearly or quite all the skeleton is involved are extremely rare. Saucerette describes a case in which the weight of a man increased from 119 to 178 pounds, although the soft parts were wasting. W. H., a shoemaker, aged 26, came to Professor Friedreich's clinic in May, 1867. In 1859 he observed, without obvious cause, one of his feet, and gradually the leg, to become thicker, and about two years later both hands underwent considerable enlargement. On admission, the hands, feet and legs presented an elephantine appearance, and on feeling the parts, the enlargement was found to depend upon increase of bone. The phalanges and metacarpal and metatarsal bones were enormously thickened. The enlargement was especially great at the epiphysis end of the bones, although the diaphyses were also in a monstrous condition—the greatest amount of hyperostosis being observed at the wrist, ankle, and patella, this last remaining movable. The bones of the thigh and humerus were less enlarged; and, indeed, all the bones of the skeleton participated more or less in the changed condition—the crista ilii, the ribs, and the spinous processes of the lower cervical and upper dorsal vertebræ being all excessively enlarged. The clavicles were double their normal circumference. Among the bones of the face, the zygoma, palate bones, and the alveolar processes were by far the most affected, the teeth having undergone no change. The hyoid bone was remarkably broad and thick. The vault of the cranium exhibited no deformity, and there were no irregularities or exostoses on the smooth surfaces of any of the bones of the body. Some measurements may give a more exact idea of the case. In a total length of the body of 167½ centimetres, the plantar surfaces on each side measured 11 centimetres across. The circumference of the leg at the ankle measured 37; that of the wrist, 24. The circumference of the right knee was 44, and of the left 37. The breadth of the tibia was 7½, and of the clavicle 3. The cartilaginous structures participated to a considerable extent in the hypertrophy, as in the ear, tarsus, epiglottis, and in a less degree the vomer. The cartilages of the larynx and the rings of the trachea had undergone no change. The nails had attained a colossal size, those of the thumbs measuring 3½, of the middle finger 2⅓, and of the great toe 4 centimetres. The skin of the body was somewhat hard, and the muscular tissue flabby. The patient introduced to the Professor as remarkable a case as his own in the shape of his brother, aged 22, who, in his 17th year, had also begun to observe the same changes. We need not repeat the description of the changes, which, although existing in a somewhat less degree at present, were no less universal and remarkable. The elder brother's case is illustrated by a photograph.—*Virchow's Archiv.*

DR. BALLARD's nine aphorisms on the influence of weather upon sickness are thus given in his recent Report on the Health of Islington for 1867: "1. That an increase of atmospheric temperature is normally associated with an increase of general sickness. 2. That a decrease of atmospheric temperature is normally associated with a diminution of general sickness. 3. That for the most part the increase or decrease of sickness is proportional in amount to the extent to which the atmospheric temperature rises or falls. 4. That it is an error to suppose (as is popularly held) that sudden changes in temperature are (as a rule) damaging to public health. A sudden change from cold to hot weather is indeed very damaging; but a sudden change from hot to cold is one of the most favorable circumstances that can occur when sickness is regarded broadly as respects a large population. 5. That, remarkably enough, these influences are most marked in the directions I have mentioned in the colder seasons of the year, and more certain in the winter than in the summer. 6. That rises and falls of temperature are more certain and effectual in their special operation upon public health when at the same time the daily range of temperature is lessened, than they are when the daily range is at the same time increased; rises of temperature increasing sickness more certainly and markedly, and falls of temperature decreasing it more certainly and markedly. 7. That a fall of rain lessens sickness generally, sometimes immediately, sometimes after a short interval, and that, as a rule, the reduction of general sickness is greater when the fall of rain is heavy than when it is light. 8. That drought, on the other hand, tends to augment general sickness. 9. That wet weather in the summer season operates more certainly in improving public health than it does in the winter season."—*Med. Times and Gazette.*

INTESTINAL PUNCTURE IN TYMPANITES.—Under the advice of Dr. Foussagrives, intestinal puncture, as a last resource, has been several times practised at Toulouse, on two patients suffering with tympanites. In the first case, the abdomen formed an immense mass; the patient was perfectly cyanosed and suffocating. An exploring trocar was inserted into the most distended part of the lower umbilical region. The gas escaped so violently as to extinguish a candle. The distention returning next day, two fresh punctures were made in different places, and gave so much relief that the life of the patient was prolonged four days. In another case six punctures were successively made, until the gases were naturally evacuated, and the patient cured.—*L' Un. Méd.*

APPOINTMENT.—DR. DAVID W. CHEEVER has been appointed by the President and Fellows of Harvard College, Adjunct Professor of Clinical Surgery in the Medical School of the University.

NOTICE TO CONTRIBUTORS.—We shall hereafter decline all *anonymous* communications, and shall append the name of the author to every article we publish.

UNIVERSITY OF MICHIGAN.—We are gratified to learn that the Regents of the University of Michigan having become convinced that it is impossible to introduce a chair of homœopathy into the Medical Department without destroying it as a school of regular scientific medicine, have resolved almost unanimously not to do so under any circumstances, and confidence and harmony are again restored. The Faculty, we are informed, with the exception of two who have made other arrangements, remain at their posts. The vacancies have been filled by sound and able men, and the strongest hopes are entertained that without further shock or disturbance the Medical College will go on as heretofore in its career of usefulness and success.

GOOD MANUSCRIPT. No greater curiosity is ever seen at a printing office than "copy" that is copy. This remark will refer to dailies, weeklies, monthlies, quarterlies or any other 'lies whose occupation is to transfer that which comes from the pen into that which is to come from the type. Few manuscripts that are sent us can be set up as they are written—especially as regards punctuation and the proper arrangement and division of sentences. An editor who has to examine a given quantity of matter every twenty-four hours, has little time to revise; and, surely a compositor, whose time is money, cannot patiently stand still and blunder over obscure sentences. Write with more care and spare the printer.

The above, from the Boston *Evening Transcript*, is quite as applicable to scientific periodicals as to those of a more miscellanous or popular character.

DR. SCHWEIGGER, of Berlin, has been appointed Professor of Ophthalmology in the University of Göttingen.

Selections and Medical Items.

The Influence of Elasticity on Muscular Contraction.—In a paper presented to the French Academy of Sciences, M. Marey has endeavored to prove that muscular contraction is made up of a series of elementary movements which he calls *secousses*, each of which is produced by the appearance of a wave at the surface of the muscular fibres. This analysis of the muscular act led the author to look upon the elasticity of the muscles as taking the same part as that of the arterial vessels in the circulation of the blood. M. Marey has shown, moreover, that the elasticity of the arteries is advantageous as regards the work which the heart can do, that it diminishes the resistance which inertia and what is called the friction of the blood-current oppose to its impulse. The question was whether the elasticity of a muscle does not play the same part as regards work, and if it does not aid in the production of work by diminishing certain resistances.

The mechanical force developed by a muscle is produced at the moment when the muscular wave is formed; its duration cannot then exceed four or five hundredths of a second in some species of animals. This also would be the duration of the movement which our muscles would tend to give by each of their *secousses* to the bodies which they are to move, if they were without elasticity and transmitted the movement which they produced without alteration of its character. Now, in these conditions of short duration of application, these forces would be almost entirely destroyed, on account of the inertia of the bodies to be moved, and, as active forces, would produce shocks instead of useful work. Let the same forces act on the same bodies through the intermediation of elastic transmission, the shock will disappear and work will be produced. By a very simple experiment, the author shows that the same force of short duration produces a shock or work, according as it is transmitted by elastic media or not. Now if, in contraction of the muscles, the motor force is engendered under the form of shock, with jerking contractions of the muscular fibres, it must be admitted that this force, transformed by the elasticity of the muscles into a uniform and prolonged traction, is then in a more favorable condition to produce mechanical work. — *Archives Générales.*

Faraday and Mr. Home.—Prof. Tyndall has written a significant letter to the *Pall Mall Gazette*, which we trust may help to dispel the illusions of many of those respectable but weak-minded people who believe in spiritual furniture. He tells us that, some years since, Faraday yielded to the persistent entreaties of a gentleman that he should investigate spiritualism, and consented to go to one of Mr. Home's séances, provided he was allowed to test the manifestations in his own way, and to publish the result of his observations. Dr. Tyndall neatly expresses Mr. Home's determination to have nothing to do with physical philosophers, by saying, "The proposed investigation never took place." Of course it did not. Did ever any thoroughly rational and observant man offer to test the spirits without being told that, being sceptical, his presence was of itself sufficient to suppress the "manifestations"?—*Medical Times and Gazette.*

The Calomel Bath.— From some recent experiments which he has made, Mr. Henry Lee has found that the irritating agent which is given off from the calomel bath, especially when this is freely used, is nothing more or less than hydrochloric acid. The effect of this acid is negatived by the use of a tray of water surrounding the pan which contains the calomel, so as to ensure its dilution. This is a little practical matter which is not sufficiently attended to by practitioners, and its neglect of course readily accounts for one source of unfair objection to the action of the bath.—*Lancet.*

Prolonged Gestation.—Dr. Rivers, of South Carolina, relates a case in which a hydrocephalic fœtus remained in utero until the completion of the twelfth month. The mother was troubled with abdominal pains at term, but these subsided after three days.—*Richmond Medical Journal.*

MEDICAL DIARY OF THE WEEK.

Monday, 9, A.M., Massachusetts General Hospital, Med. Clinic; 10, A.M., Medical Lecture. 9, A.M., City Hospital, Ophthalmic Clinic.
Tuesday, 9, A.M., City Hospital, Medical Clinic; 10, A.M., Medical Lecture. 9 to 11, A.M., Boston Dispensary. 10–11, A.M., Massachusetts Eye and Ear Infirmary.
Wednesday, 10 A.M., Massachusetts General Hospital Surgical Visit. 11 A.M., Operations.
Thursday, 11 A.M., Massachusetts General Hospital, Clinical Surgical Lecture.
Friday, 9, A.M., City Hospital, Ophthalmic Clinic; 10, A.M., Surgical Visit; 11, A.M., Operations. 9 to 11, A.M., Boston Dispensary.
Saturday, 10, A.M., Massachusetts General Hospital, Surgical Visit; 11, A.M., Operations.

A Bulletin of Expected Operations, in both the Hospitals, will be found, weekly, at the office of the Boston Medical and Surgical Journal, and at Messrs. Codman & Shurtleff's, 13 and 15 Tremont Street.

To Correspondents.—Communications accepted:—Some Unnecessary Causes of Impaired Vision.—Annual Meeting of the Maine Medical Association.

Books and Pamphlets Received.—The Institutes of Medicine. By Martyn Payne, A.M., M.D., &c. &c. Eighth Edition, Revised. New York: Harper & Bros. 1867.—Manual of the Rensselaer County (N. Y.) Medical Society, containing Chronological List of Members, By-Laws, and Code of Medical Ethics.—Reports of the Board of Visitors and Trustees and of the Treasurer and Superintendent of the New Hampshire Asylum for the Insane, 1868.

Deaths in Boston for the week ending Saturday noon, June 27th, 85. Males, 44—Females, 41.—Aneurism, 1—apoplexy, 3—caries of bone, 1—congestion of the brain, 1—inflammation of the brain, 2—bronchitis, 5—canker, 1—cholera infantum, 4—consumption, 14—convulsions, 4—cyanosis, 1—debility, 3—dropsy, 2—drowned, 1—dysentery, 1—erysipelas, 1—fever, 1—scarlet fever, 4—typhoid fever, 2—gangrene, 1—gastritis, 1—hæmorrhage, 1—disease of the heart, 3—disease of the liver, 2—inflammation of the lungs, 7—marasmus, 1—measles, 3—old age, 3—paralysis, 2—puerperal disease, 1—purpura, 1—unknown, 6—worms, 1.

Under 5 years of age, 31—between 5 and 20 years, 16—between 20 and 40 years, 12—between 40 and 60 years, 11—above 60 years, 15. Born in the United States, 60—Ireland, 16—other places, 9.